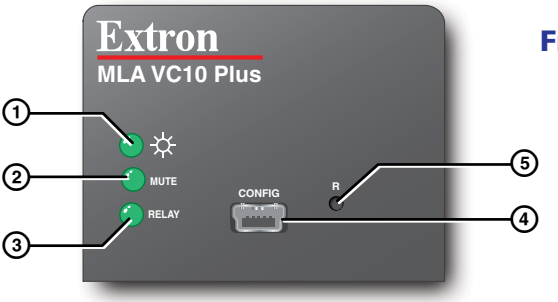
MLA VC10 Plus • Setup Guide

IMPORTANT: Refer to www.extron.com for the complete user guide and installation instructions before connecting the product to the power source.

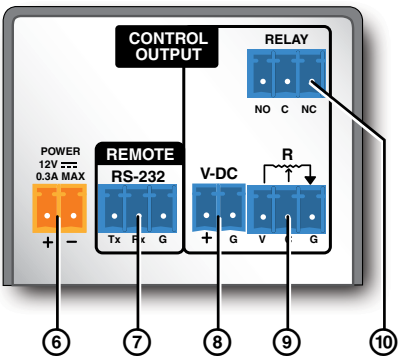
The Extron MLA VC10 Plus Volume Control Module converts RS-232 commands from a control system into voltage or impedance changes to control audio amplifiers with volume and mute control ports. The MLA VC10 Plus mutes or makes level changes on an Extron MPA Series or half rack XTRA™ Series amplifier from a TouchLink™ Touchpanel system, an RS-232-capable MediaLink® Control Processor, or a third-party control system. The control module also supports third-party amplifiers that use either variable voltage or 10 kilohm potentiometer control.

This setup guide provides instructions for quick installation and configuration of the MLA VC10 Plus with Extron products or some common third-party amplifiers. Installation and service must be performed by experienced installers only. For complete features, functions, and configuration instructions, read the user guides that come with your control processor and amplifier and see the *MLA VC10 Plus User Guide*, which is available at www.extron.com.



Front Panel

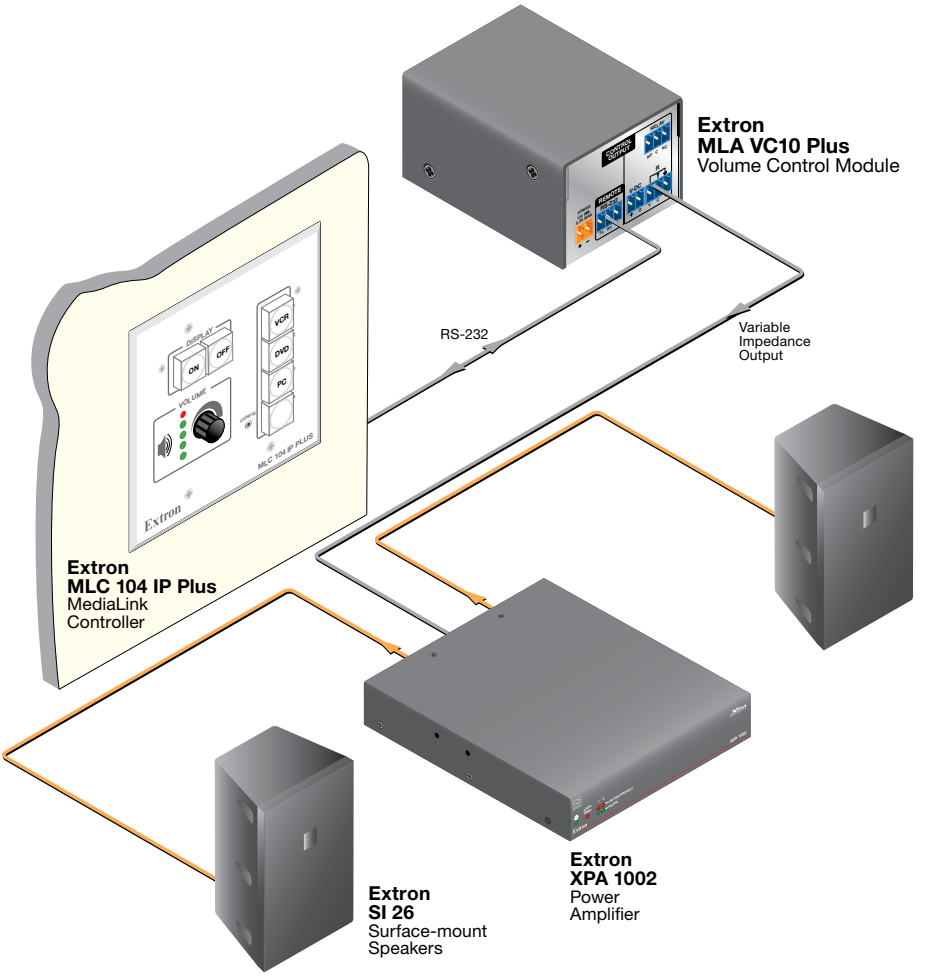
1. Power and Activity LED
2. Mute LED
3. Relay LED
4. USB Configuration Port
5. Reset Button



Rear Panel

6. Power input
7. RS-232 Control
8. Variable Voltage Control
9. Resistance (Potentiometer) Control
10. Relay Control

Application Diagram



Installation

Decide where the unit will be installed. Read the "Mounting" section of the *MLA VC10 Plus User Guide* for mounting options.

NOTES:
- The majority of amplifiers researched and tested by Extron work with the MLA VC10 Plus default settings as the unit is shipped, with no further configuration needed.
- To avoid picking up background noise in the cable, use shielded cable, such as Extron STP 22 cable (see **www.extron.com**) and place the MLA VC10 Plus as close as possible to the amplifier. The recommended cable length between the MLA VC10 Plus and the amplifier should be six feet or less.

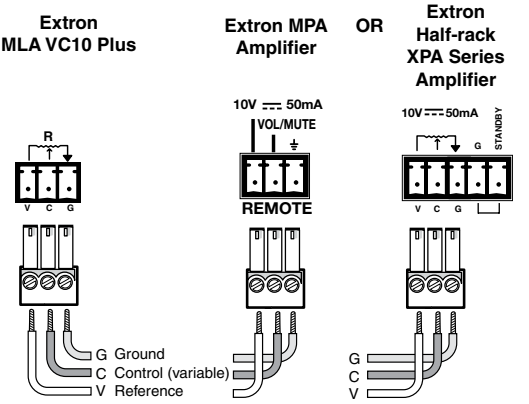
Remote Volume Control Connections to Amplifiers

The following examples show how to wire the resistance control terminals of the MLA VC10 Plus to an Extron MPA or XPA Series amplifier, or some common third-party amplifiers.

Other amplifiers not shown here require similar connections but you must read the appropriate user guides to ensure the wiring is correct.

Extron MPA or XPA Series Amplifier

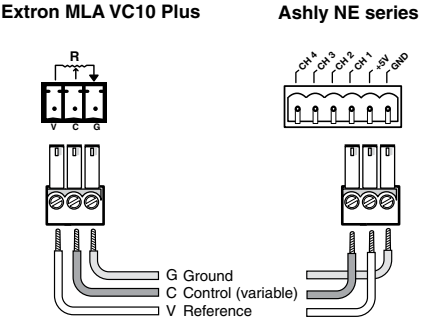
1. Connect the reference voltage wire (V) of the MLA VC10 Plus to the reference terminal of the amplifier (10V on the MPA; V on the XPA).
2. Connect the ground wire (G) of the MLA VC10 Plus to the ground terminal on the amplifier (⏚ on the MPA; G on the XPA).
3. Connect the control signal wire (C) of the MLA VC10 Plus to the control signal terminal of the amplifier (Vol/Mute on the MPA; C on the XPA).



Third-party Amplifier (Three-pin Connection)

This example shows the MLA VC10 Plus connected to an Ashly NE Series amplifier.

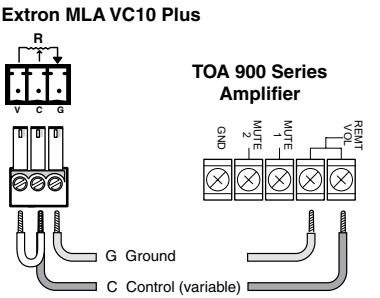
1. Connect the reference voltage wire (V) from the MLA VC10 Plus to the reference voltage terminal (+5V) on the amplifier.
2. Connect the ground wire (G) from the MLA VC10 Plus to the ground terminal (Gnd) on the amplifier.
3. Connect the control signal wire (C) from the MLA VC10 Plus to the control signal terminal (Ch 1) on the amplifier.



Third-party Amplifier (Two-pin Connection)

This example shows the MLA VC10 Plus connected to a TOA 900 Series amplifier.

1. Connect the ground wire (G) from the MLA VC10 Plus to the **left** Remt Vol terminal on the amplifier.
2. Connect both the reference wire (V) and the control signal wire (C) from the MLA VC10 Plus to the **right** Remt Vol terminal on the amplifier.



Connect the signal (C) and reference (V) terminals of the MLA VC10 Plus.
Connect the signal (C) terminal to the amplifier.

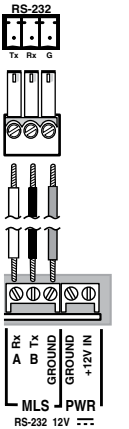
Connecting the RS-232 Controller

Connect the RS-232 pins to the control processor. This example shows the connections to an Extron MLC 104 IP Plus. If you are using a different control processor, read the appropriate user guide to be certain you are making the correct connections.

If using an Extron MLC, use the following RS-232 protocol parameters:

- 9600 bps
- 8 data bits
- 1 stop bit
- no parity

Extron MLA VC10 Plus



MLC 104 IP Plus Serial Port

Simple Instruction Set (SIS™) Commands for Volume and Mute Control

A serial driver is also available on the Extron website (www.extron.com) that allows Extron control processors to issue the commands shown below to the MLA VC10 Plus without needing to enter them manually. For example, this will allow you to exercise serial control over the MLA VC10 Plus volume by turning a knob on an MLC.

Using the driver requires the control processor to be configured with the appropriate Extron configuration software (see the user guide for the control processor and the help file for the software).

Setting	SIS Command	Response	Comment
Increase volume by 1 step	+V	Vol[X1]↵	**NOTE:** [X1] is 0 to 100: volume level steps (0 = mute)
Decrease volume by 1 step	-V	Vol[X1]↵	
Set volume	[X1] V	Vol[X1]↵	
Example: set volume to 82	*82V*	*VolØ82↵*	
View volume level	V	Vol[X1]↵	
Mute on	1Z	Amt1↵	**NOTE:** [X2] is 0 = unmuted, 1 = muted
Mute off	0Z	AmtØ↵	
View mute status	Z	Amt[X2]↵	

Power Connection

Use the 2-pole, 3.5 mm captive screw power connector to connect a power supply (not provided). The MLA VC10 Plus can share a power supply with an Extron control processor. If you are using a third-party controller, the MLA VC10 Plus must be connected to the Extron external 12 VDC, 1 A power supply (part number **70-775-01**), which must be purchased separately.

CAUTIONS:

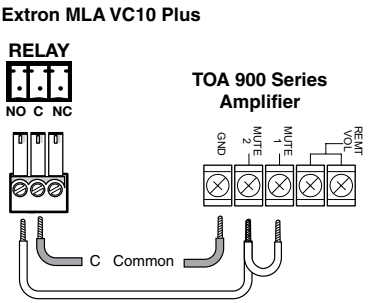
- For proper start up, the MLA VC10 Plus must be completely powered off before connecting it to the 12 VDC power supply.
- Read the caution in the "Power Connections" section of the *MLA VC10 Plus User Guide* for important information about power supplies and sharing a power supply between the MLA VC10 Plus and the MLC 104 IP Plus.

Additional Setup and Configuration

Connecting the Relay (Optional)

By default, the relay is used for the auto mute function. The relay automatically triggers on whenever the volume level on the MLA is 0 (see the *MLA VC10 Plus User Guide* for more information about this function). For a third-party amplifier that has contact closure terminals, the relay can be used to mute the audio.

This example shows how to set up the relay with a TOA 900 Series amplifier. Connections to other amplifiers are similar but see the user guide for your amplifier for details.



1. Connect the ground (Gnd) of the TOA 900 Series amplifier to the common (C) pin of the MLA VC10 Plus.
2. Connect the Mute 1 and Mute 2 terminals of the TOA 900 to the Normally Open (NO) pin of the MLA VC10 Plus.

The relay can be used for other, general purpose control once the auto mute function has been disabled. One example is to place the amplifier in standby mode to conserve power when it is idle. See the *MLA VC10 Plus User Guide* for examples and instructions.

Using Variable Voltage to Control Volume

A few amplifiers cannot be controlled by the potentiometer and must, instead, be controlled by variable DC voltage. This example shows how to connect the MLA VC10 Plus to an amplifier that requires a maximum output voltage of 10 VDC.

1. Connect the USB port of the MLA VC10 Plus to a computer with the Extron DataViewer software installed to send the following SIS commands.

   NOTE:
   - See the *MLA VC10 Plus User Guide* for information about downloading and installing DataViewer on your computer.
   - Whenever possible, Extron recommends configuring the MLA VC10 Plus before connecting the unit to the amplifier.
   - For a complete description of SIS commands, see the *MLA VC10 Plus User Guide*, which is available on the Extron website (www.extron.com).

2. Set the MLA VC10 Plus control mode to voltage, using the following command:
   Esc M*1VLCM ←

3. Ensure that you know the maximum control voltage for your amplifier. In this example, the maximum voltage output is 10 VDC.

   For more information, see the user guide for the amplifier or measure the voltage, as described in the *MLA VC10 Plus User Guide*.

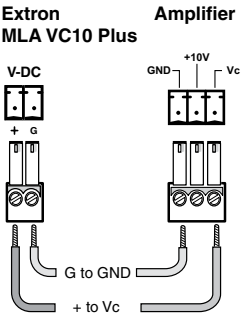
4. For other amplifiers, it may be necessary to set the maximum voltage output. For example, to set the voltage to 7.5 V, using the following command:
   Esc V*7.5ØVLCM ←

   NOTE: You must include the final 0 in 7.50. The leading 0 (07.50) is optional.

5. Disconnect the USB connection to the computer.

6. Connect the MLA VC10 Plus variable voltage ports to the amplifier:
   - Connect the ground (G) terminal of the MLA VC10 Plus to the ground (Gnd) terminal of the amplifier.
   - Connect the control signal voltage (+) terminal of the MLA VC10 Plus to the signal voltage (Vc) terminal of the amplifier.

7. Connect the RS-232 controller (see page 4) and power (see page 5).



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